



Annex K Newcastle Fire Protection District

K.1 Introduction

This Annex details the hazard mitigation planning elements specific to Newcastle FPD (District), a new participating jurisdiction to the 2021 Placer County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to the District, with a focus on providing additional details on the risk assessment and mitigation strategy for this District.

K.2 Planning Process

As described above, the District followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the District formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table K-1. Additional details on plan participation and District representatives are included in Appendix A.

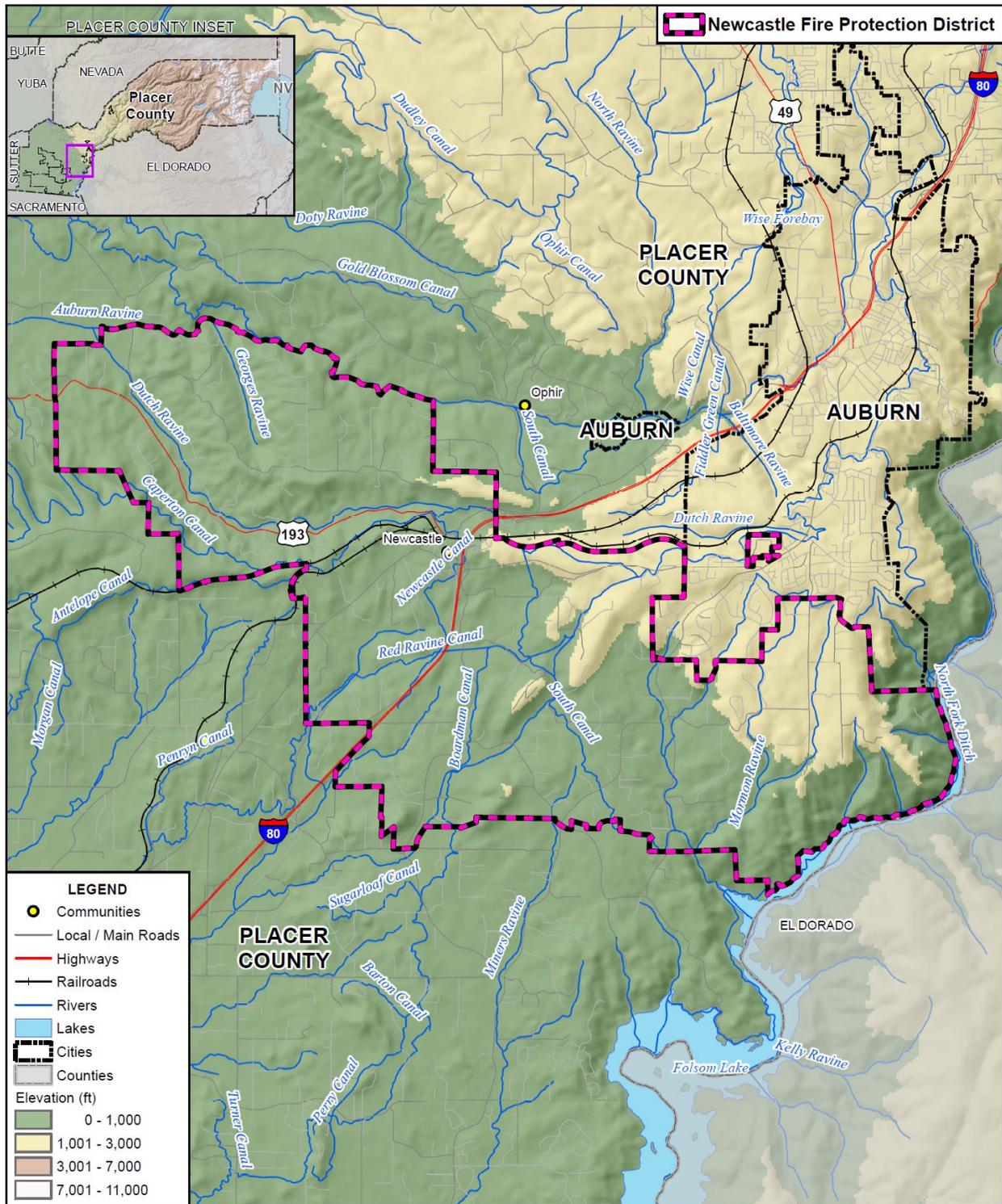
Table K-1 Newcastle FPD – Planning Team

Name	Position/Title	How Participated
Ian Gow	Fire Chief	Review and approval of information provided
Gillian Lofrano	District Manager	Provided data and information
Mark D'Ambrogi	Fire Marshal	Participated in meetings, completed required information

K.3 District Profile

The District profile for the Newcastle FPD is detailed in the following sections. Figure K-1 displays a map and the location of the District within Placer County.

Figure K-1 Newcastle FPD



Data Source: Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

K.3.1. Overview and Background

Newcastle Fire Protection District is located in the Sierra Foothills of Placer County, California. The District was established in 1868 and has been located in the same building since 1922 in the heart of the town of Newcastle. The District covers 15 square miles, serves approximately 6200 residents, and responds to approximately 700 calls for service annually.

The District is governed by a five member Board of Directors which is elected by voters of the District. The Fire Chief (currently shared with Placer Hills Fire Protection District) oversees 6 full time employees and 3-4 active volunteer firefighters.

The Newcastle Fire Protection District cross staffs both a Type 1 and Type 3 Wildland Interface Engine with a minimum staffing of two Personnel. Both personnel are trained to a minimum of EMT-1 with advanced scope of skills. One captain and one engineer are minimum staffing with intern, seasonal and volunteer personnel augmenting staffing to provide three personnel when possible. The District is an “All-Risk” department that provides a timely response to all types of fires, medical emergencies, rescues, and hazardous material incidents. Additional services include a year-round fire prevention program incorporating building occupancy inspections, new building plan reviews and an aggressive risk reduction and Public Education delivery model.

The District currently has two benefit assessments levied of which bring in \$340,358 and \$167,493 annually to help fund the District. A portion of these assessments are for capital expenditures mainly a new fire station.

The current fire station has been used since 1922 and does not meet the needs of an Essential Public Service Facility. The building no longer can support personnel, equipment, and public services in its current condition. The Board of Directors have been diligently planning relocation and construction of a new station.

Currently the Newcastle Fire Protection District has an agreement with Placer Hills Fire Protection District for Administrative Services that include: A Fire Chief, District Manager, Fire Marshal services, and Battalion Chief coverage.

K.4 Hazard Identification

Newcastle FPD identified the hazards that affect the District and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to District (see Table K-2).

Table K-2 Newcastle FPD—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Agriculture Pests and Diseases	Significant	Likely	Limited	Low	Medium
Avalanche	Limited	Unlikely	Limited	Low	Medium
Climate Change	Limited	Likely	Critical	Medium	–
Dam Failure	Limited	Unlikely	Limited	Low	Medium
Drought & Water Shortage	Extensive	Likely	Critical	High	High
Earthquake	Limited	Unlikely	Negligible	Low	Low
Floods: 1%/0.2% annual chance	Limited	Likely	Limited	Medium	Medium
Floods: Localized Stormwater	Limited	Likely	Critical	Medium	Medium
Landslides, Mudslides, and Debris Flows	Limited	Unlikely	Critical	Low	Medium
Levee Failure	Limited	Unlikely	Negligible	Low	Medium
Pandemic	Significant	Unlikely	Critical	Low	Medium
Seiche	Limited	Unlikely	Negligible	Low	Medium
Severe Weather: Extreme Heat	Extensive	Likely	Critical	Medium	High
Severe Weather: Freeze and Snow	Extensive	Unlikely	Critical	Medium	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Unlikely	Critical	Medium	Medium
Severe Weather: High Winds and Tornadoes	Limited	Unlikely	Limited	Low	Low
Tree Mortality	Limited	Likely	Limited	Medium	High
Wildfire	Extensive	Highly Likely	Catastrophic	High	High
Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area	Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid				
Likelihood of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.	Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact				
	Climate Change Influence Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact				

K.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

K.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section K.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard (as shown in Table K-2) affects the District and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

K.5.2. Vulnerability Assessment and Assets at Risk

This section identifies the District's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific, but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the Newcastle FPD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition is further refined by separating out three classes of critical facilities:

Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery.

Class 2 facilities include those facilities that house Emergency Services capabilities.

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc.

Additional information on the three classes of critical facilities is described further in Section 4.3.1 of the Base Plan.

Table K-3 lists critical facilities and other District assets identified by the District Planning Team as important to protect in the event of a disaster. Newcastle FPD’s physical assets, valued at over \$4 million, consist of the buildings and infrastructure to support the District’s operations.

Table K-3 Newcastle FPD Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Which Hazards Pose Risk
Station 41	Essential	\$4,000,000	Wildfire/Earthquake
Total		\$4,000,000	

Source: Newcastle FPD

Populations Served

Also potentially at risk should the District be affected by natural hazard events are the populations served by the District. NFPD provides services to a number of resident types of which include retired individuals, a majority of the population, senior and elderly persons, working families that commute to school and work, and recreational enthusiasts utilizing natural resources in the area.

Natural Resources

Newcastle FPD has a variety of natural resources of value to the District. These natural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Historic and Cultural Resources

Newcastle FPD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Growth and Development Trends

General growth in the District parallels that of the Placer County Planning Area as a whole. Information can be found in Section 4.3.1 of the Base Plan.

The District is in the process of relocating and constructing a new fire station to serve the existing response area, there will be no expansion of the current response area once the new station is built.

The District is also in the preliminary stages of providing Advanced Life Support (ALS) in the response area. ALS is an advanced level of emergency medical care that has been proven to save lives of the sick and injured.

Future Development

The District has no control over future development in areas the District services. Future development in these areas parallels that of the Placer County Planning Area. The District plans to continue the Administrative Services Agreement with Placer Hills FPD for Fire Chief, District Manager, Fire Marshal services, and Battalion Chief coverage. More general information on growth and development in Placer County as a whole can be found in “Growth and Development Trends” in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

K.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table K-2 as high or medium significance hazards. Impacts of past events and vulnerability of the District to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, critical facilities and infrastructure, populations at risk, and future development.

Climate Change

Likelihood of Future Occurrence—Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state’s infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the District, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the District noted that climate change is of concern, no specific impacts of climate change could be recalled. The District and HMPC members did, however, note that in Placer County, the strength of storms does seem to be increasing and the temperatures seem to be getting hotter. Hotter temperatures, combined with recent drought conditions, exacerbates the potential for damaging wildfires.

Vulnerability to and Impacts from Climate Change

The California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California’s APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region’s economy is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the majority of water used by the state. This information can be used to guide climate adaptation planning in the District and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation

- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire

Assets at Risk

The District noted that its facilities will most likely not be at risk from climate change.

Drought & Water Shortage

Likelihood of Future Occurrence–Likely

Vulnerability–High

Hazard Profile and Problem Description

Drought is a complex issue involving many factors—it occurs when a normal amount of precipitation and snow is not available to satisfy an area’s usual water-consuming activities. Drought can often be defined regionally based on its effects. Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for agriculture, manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Location and Extent

Drought and water shortage are regional phenomenon. The whole of the County, as well as the whole of the District, is at risk. The US Drought Monitor categorizes drought conditions with the following scale:

- None
- D0 – Abnormally dry
- D1 – Moderate Drought
- D2 – Severe Drought
- D3 – Extreme drought
- D4 – Exceptional drought

Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time, which does not usually affect water shortages and for longer periods. Should a drought last for a long period of time, water shortage becomes a larger issue. Current drought conditions in the District and the County are shown in Section 4.3.10 of the Base Plan.

Past Occurrences

There has been one state and one federal disaster declaration due to drought since 1950. This can be seen in Table K-4.

Table K-4 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Drought	1	2014	1	1977

Source: Cal OES, FEMA

Since drought is a regional phenomenon, past occurrences of drought for the District are the same as those for the County and includes 5 multi-year droughts over an 85-year period. Details on past drought occurrences can be found in Section 4.3.10 of the Base Plan.

Vulnerability to and Impacts from Drought and Water Shortage

Based on historical information, the occurrence of drought in California, including the District, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts can be extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. Drought impacts are wide-reaching and may be economic, environmental, and/or societal. Tracking drought impacts can be difficult.

The most significant qualitative impacts associated with drought in the Placer County Planning Area are those related to water intensive activities such as agriculture, wildfire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Mandatory conservation measures are typically implemented during extended droughts. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. With a reduction in water, water supply issues based on water rights becomes more evident. Climate change may create additional impacts to drought and water shortage in the County and the District.

During periods of drought, vegetation can dry out which increases fire risk. Drought that occurs during periods of extreme heat and high winds can cause Public Safety Power Shutoff (PSPS) events to be declared in the County. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section below, as well as in Section 4.3.2 of the Base Plan.

Impacts that may affect the District due to drought are the increased risks of wildfire due to reduced fuel moistures and reduction of water sources for firefighting activities.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Flood: 1%/0.2% Annual Chance

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

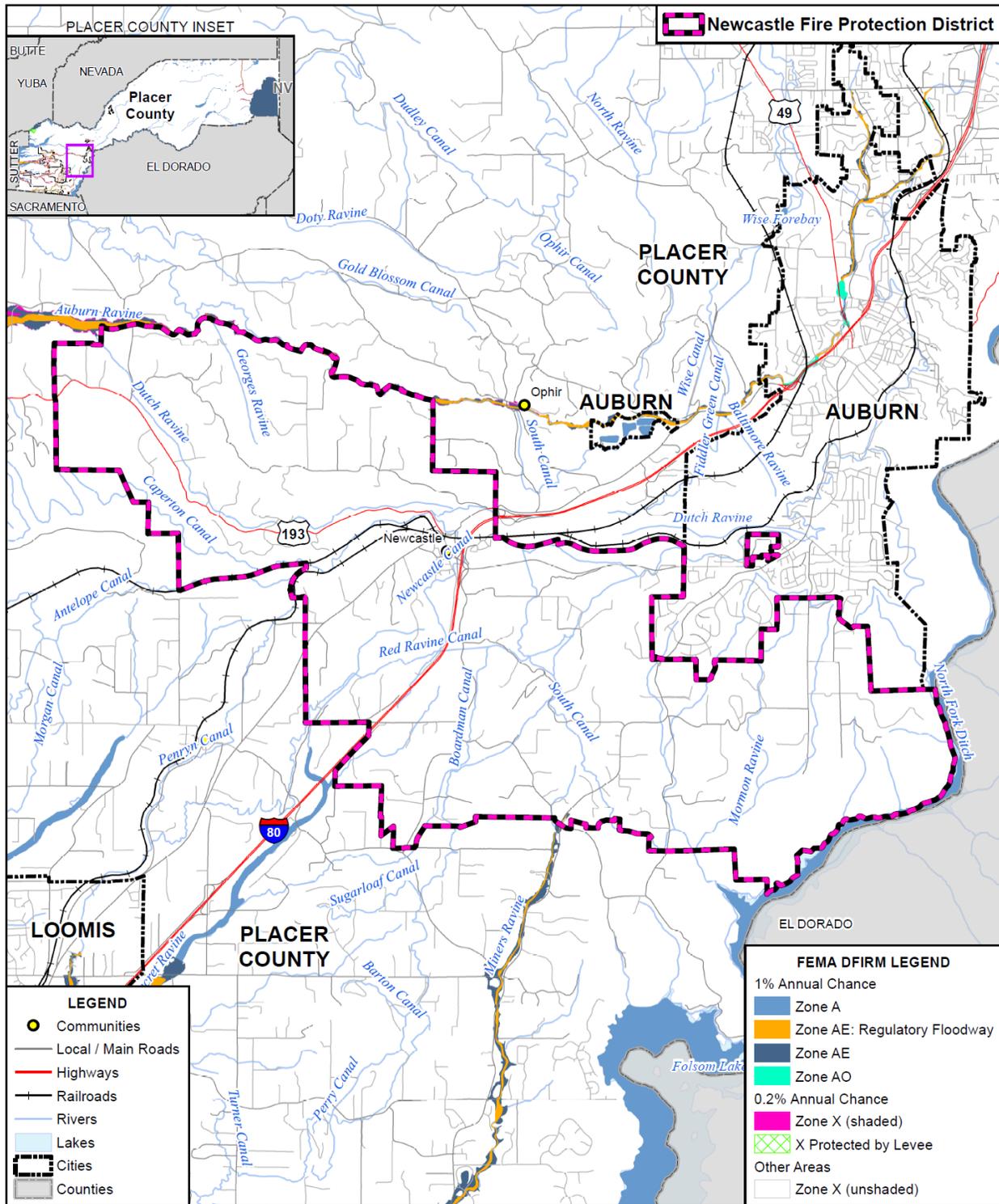
This hazard analyzes the FEMA DFIRM 1% and 0.2% annual chance floods. These tend to be the larger floods that can occur in the County or in the District, and have caused damages in the past. Flooding is a significant problem in Placer County and the District. Historically, the District has been at risk to flooding primarily during the winter and spring months when river systems in the County swell with heavy rainfall and snowmelt runoff. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. Occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage.

As previously described in Section 4.3.12 of the Base Plan, the Placer County Planning Area and the Newcastle FPD have been subject to historical flooding.

Location and Extent

The Newcastle FPD has areas located in the 1% annual chance floodplain. This is seen in Figure K-2.

Figure K-2 Newcastle FPD – FEMA DFIRM Flood Zones



Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table K-5 details the DFIRM mapped flood zones within the 1% annual chance flood zone as well as other flood zones located within the District.

Table K-5 Newcastle FPD– DFIRM Flood Hazard Zones

Flood Zone	Description	Flood Zone Present in the District
A	Areas subject to inundation by the 1% annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.	X
AE	Areas subject to inundation by the 1% annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.	X
AE – Regulatory Floodway	Areas subject to inundation by the 1% annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply. Different from AE in that it adds the water course and adjacent lands that must be reserved in order to discharge the base flood without increasing the water surface elevation by more than one foot.	
AH	An area inundated by 1% annual chance flooding (usually an area of ponding), for which BFEs have been determined; flood depths range from 1 to 3 feet	
AO	Areas subject to inundation by 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet	
Shaded X	500-year flood the areas between the limits of the 1% annual chance flood and the 0.2-percent-annual-chance (or 500-year) flood	
X Protected by Levee	An area determined to be outside the 500-year flood and protected by levee from 100-year flood	
X	Areas outside of known floodplains.	X

Source: FEMA

Additionally, flood extents can generally be measured in volume, velocity, and depths of flooding. Expected flood depths in the District vary, depending on the nature and extent of a flood event; specific depths are unknown. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Flooding in the District tends to have a shorter speed of onset, due to the amount of water that flows through the District.

Past Occurrences

A list of state and federal disaster declarations for Placer County from flooding is shown on Table K-6. These events also likely affected the District to some degree.

Table K-6 Placer County – State and Federal Disaster Declarations from Flood 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Flood (including heavy rains and storms)	16	1950, 1955, 1958 (twice), 1962, 1963, 1969, 1973, 1980, 1983, 1986, 1995 (twice), 1997, 2008, 2017	13	1955, 1958, 1962, 1964, 1969, 1983, 1986, 1995 (twice), 1997, 2006 (twice), 2017

Source: Cal OES, FEMA

Vulnerability to and Impacts from Flood

Floods have been a part of the District’s historical past and will continue to be so in the future. During winter months, long periods of precipitation and the timing of that precipitation are critical in determining the threat of flood, and these characteristics further dictate the potential for widespread structural and property damages. Predominantly, the effects of flooding are generally confined to areas near the waterways of the County. As waterways grow in size from local drainages, so grows the threat of flood and dimensions of the threat. This threatens structures in the floodplain. Structures can also be damaged from trees falling as a result of water-saturated soils. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of governmental offices and community businesses. Roads can be damaged and closed, causing safety and evacuation issues. People may be swept away in floodwaters, causing injuries or deaths.

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Floodwaters can transport large objects downstream which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, loss of environmental resources, and economic impacts.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Flood: Localized Stormwater Flooding

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Flooding occurs in areas other than the FEMA mapped 1% and 0.2% annual chance floodplains. Flooding may be from drainages not studied by FEMA, lack of or inadequate drainage infrastructure, or inadequate maintenance. Localized, stormwater flooding occurs throughout the County during the rainy season from November through April. Prolonged heavy rainfall contributes to a large volume of runoff resulting in high peak flows of moderate duration.

Location and Extent

The Newcastle FPD is subject to localized flooding throughout the District. Flood extents are usually measured in areas affected, velocity of flooding, and depths of flooding. Expected flood depths in the District vary by location. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Localized flooding in the District tends to have a shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture.

The District tracks localized flooding areas. localized flood areas identified by the Newcastle FPD are summarized in Table K-7

Table K-7 Newcastle FPD – List of Localized Flooding Problem Areas

Area Name	Flooding	Pavement Deterioration	Washout	High Water	Landslide/ Mudslide	Debris	Downed Trees
Taylor Rd at Tunnel					X		X

Source: Newcastle FPD

Past Occurrences

There have been no federal or state disaster declarations in the County due to localized flooding. The District noted the following past occurrences of localized flooding:

The District noted no minor flooding has occurred in the past 5 years that have caused delays and or re-routing to emergency calls for service.

Vulnerability to and Impacts from Localized Flooding

Historically, much of the growth in the District and County has occurred adjacent to streams, resulting in significant damages to property, and losses from disruption of community activities when the streams overflow. Additional development in the watersheds of these streams affects both the frequency and duration of damaging floods through an increase in stormwater runoff.

Primary concerns associated with stormwater flooding include life safety issues, and impacts to property and to infrastructure that provides a means of ingress and egress throughout the community. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Objects can also be buried or destroyed through sediment deposition. Floodwaters can break utility lines and interrupt services. Standing water can cause damage to crops, roads, and foundations. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

The District's concerns with localized flooding include increased response times to emergencies and the ability of citizen evacuation in flooded areas.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Severe Weather: Extreme Heat

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature.” Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

In addition to the risks faced by citizens of the District, there are risk to the built environment from extreme heat. While extreme heat on its own does not usually affect structure, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat and high winds can cause power outages and PSPS events, causing issues to buildings in the District.

Extreme Heat and Power Shortage/Power Failure

The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power disruptions can be found in Section 4.3.2 of the Base Plan.

Public Safety Power Shutoff (PSPS)

A new intentional disruption type of power shortage/failure event has recently occurred in California. In recent years, several wildfires have started as a result of downed power lines or electrical equipment. This was the case for the Camp Fire in 2018. As a result, California's three largest energy companies (including PG&E), at the direction of the California Public Utilities Commission (CPUC), are coordinating to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, including periods of high winds, high temperatures, and low humidity, electric power may be shut off for public safety in an effort to prevent a wildfire. This is called a PSPS.

More information on PSPS criteria can be found in Section 4.3.2 of the Base Plan.

Location and Extent

Heat is a regional phenomenon and affects the whole of the District. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.3.2 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for heat. The District Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.2.

The District has experienced increased wildfire danger during times of extreme heat and increased medical responses due to heat related illness.

During times of PSPS the District has been affected with loss of power that impacts communications such as internet and phone. Station 41 does not have back-up generator power and is limited in full facility function during these periods.

Vulnerability to and Impacts from Extreme Heat

The District experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations. During these times, drought conditions may worsen. Also, power outages and PSPS events may occur during these times as well, especially when

combined with the potential for severe wind events. Health impacts, including loss of life, are often the primary concern with this hazard, though economic impacts can also be an issue.

Days of extreme heat have been known to result in medical emergencies, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts. Extreme heat can also dry out vegetations, making it more vulnerable to wildfire ignitions and spread.

The effects of extreme heat to the District include increased wildfire danger and potential heat related issues to personnel engaging in emergency response.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Severe Weather: Freeze and Snow

Likelihood of Future Occurrence–Unlikely

Vulnerability–Medium

Hazard Profile and Problem Description

According to the NWS and the WRCC, winter snowstorms can include heavy snow, ice, and blizzard conditions. Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns.

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until the damage can be repaired. Power outages can have a significant impact on communities, especially critical facilities such as public utilities. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Some winter storms are accompanied by strong winds, creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chills. Strong winds accompanying these intense storms and cold fronts can knock down trees, utility poles, and power lines. Blowing snow can reduce visibility to only a few feet in areas where there are no trees or buildings. Serious vehicle accidents with injuries and deaths can result. Freezing temperatures can cause significant damage to the agricultural industry.

Location and Extent

Freeze and snow are regional issues, meaning the entire District is at risk to cold weather and freeze events. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 22.6 days with 0 days falling below 0°F in western Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall

on the western side of the County is 1.4 inches. Freeze and snow has a slow onset and can generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, but is more unlikely in the western portion of the County. When it does snow, the snow often melts relatively quickly.

Past Occurrences

There has been no federal and one state disaster declarations in the County for freeze and snow, as shown on Table K-8.

Table K-8 Placer County – State and Federal Disaster Declarations from Freeze and Snow 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Freeze	1	1972	0	–

Source: Cal OES, FEMA

The District noted that cold and freeze is a regional phenomenon; events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.3. The District experiences very few times of snow with limited impact, usually a short term event. When freeze does occur it can have an impact on travel roads of which may result in extended response times. An increase for calls of service due to broken water pipes does occur during these events as well as traffic accidents.

Vulnerability to and Impacts from Severe Weather: Freeze and Snow

The District experiences temperatures below 32 degrees during the winter months. Freeze can cause injury or loss of life to residents of the District. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed building can be damaged during periods of extreme cold. Freeze and snow can occasionally be accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets to impacts of severe winter weather in the County. During extreme winter events, response times to emergencies may be extended.

Impacts to the District include extended response times, increase in freeze related incidents of broken water pipes, increase in vehicle accidents, and medical emergencies related to freezing conditions.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Severe Weather: Heavy Rains and Storms (Hail, Lightning)

Likelihood of Future Occurrence–Unlikely

Vulnerability–Medium

Hazard Profile and Problem Description

Storms in the District occur annually and are generally characterized by heavy rain often accompanied by strong winds and sometimes lightning and hail. Approximately 10 percent of the thunderstorms that occur each year in the United States are classified as severe. A thunderstorm is classified as severe when it contains one or more of the following phenomena: hail that is three-quarters of an inch or greater, winds in excess of 50 knots (57.5 mph), or a tornado. Heavy precipitation in the District falls mainly in the fall, winter, and spring months.

Location and Extent

Heavy rain events occur on a regional basis. Rains and storms can occur in any location of the District. All portions of the District are at risk to heavy rains. Most of the severe rains occur during the fall, winter, and spring months. There is no scale by which heavy rains and severe storms are measured. Magnitude of storms is measured often in rainfall and damages. The speed of onset of heavy rains can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of severe storms in California, Placer County, and the District can range from minutes to hours to days. Information on precipitation extremes can be found in Section 4.3.4 of the Base Plan.

Past Occurrences

There have been past disaster declarations from heavy rains and storms, which were discussed in Past Occurrences of the flood section above. According to historical hazard data, severe weather, including heavy rains and storms, is an annual occurrence in the District. This is the cause of many of the federal disaster declarations related to flooding.

Minor rock debris slides have occurred during heavy and prolonged periods of rain. Occurrences are confined to a county roadway. This has happened at Taylor Rd on each side of the tunnel.

Vulnerability to and Impacts from Heavy Rain and Storms

Heavy rain and severe storms are the most frequent type of severe weather occurrences in the District. These events can cause localized flooding. Elongated events, or events that occur during times where the ground is already saturated can cause 1% and 0.2% annual chance flooding. Wind often accompanies these storms and has caused damage in the past. Hail and lightning are rare in the District.

Actual damage associated with the effects of severe weather include impacts to property, critical facilities (such as utilities), and life safety. Heavy rains and storms often result in localized flooding creating significant issues. Roads can become impassable and ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Floodwaters and downed

trees can break utilities and interrupt services. Minor rock debris slides have occurred during heavy and prolonged periods of rain. Occurrences are confined to a county roadway.

During periods of heavy rains and storms, power outages can occur. These power outages can affect pumping stations and lift stations that help alleviate flooding. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Tree Mortality

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

One of the many vulnerabilities of drought in Placer County is the increased risk of widespread tree mortality events that pose hazards to people, homes, and community infrastructure, create a regional economic burden to mitigate, and contribute to future fuel loads in forests surrounding communities. During extended drought, tree mortality is driven by a build-up in endemic bark beetle populations and exacerbated by latent populations of a suite of native insects and disease. Non-native forest pests (insects and/or pathogens) can also contribute to tree mortality events.

Location and Extent

Onset of tree mortality events can be relatively fast; however conditions – such as high stand densities – that lead to tree mortality accumulate slowly over time. Duration of tree mortality is lengthy, as once the tree dies, it remains in place until removed by human activity, wildfire, or breakdown of the wood by nature. Many areas in Placer County have seen increases in tree mortality. The County has mapped these areas, and that map was shown in Section 4.3.18 of the Base Plan. Using a color legend, the map provided by CAL FIRE shows a scale of:

- Deep burgundy depicting areas with more than 40 dead trees per acre
- Red depicting 15 - 40 dead trees per acre
- Orange depicting 5 -15 dead trees per acre
- Yellow depicting 5 or less dead trees per acre

In the past decade, mortality has increased in the eastern portion of Placer County. During the 2012-2018 drought, the state of California Tree Mortality Task force designated multiple Tier 1 and Tier 2 High Hazard Zones where tree mortality posed an elevated risk to human health, properties, and resource values. A number of Placer County areas were designated during this event and the majority of Placer County watersheds were designated as Tier 2 high hazard zones because of the significant levels of tree mortality, along with numerous Tier 1 High hazard “hot spots”. A map of these areas is shown in in Section 4.3.18 of the Base Plan.

Past Occurrences

There have been no state or federal disasters in the County related directly to tree mortality, though it has most likely contributed to the intensity of past wildfires in the County. Those events are shown in the Past Occurrences section of Wildfire below. In 2015, then-Governor Edmund G. Brown Jr. proclaimed a state of emergency due to the extreme hazard of the dead and dying trees. Following the proclamation, 10 counties were determined to be most affected, which included Placer County. Placer County proclaimed a local emergency due to tree mortality conditions on Dec. 8, 2015.

The landscape of the District is primarily oak woodland and brush with limited conifer species. Tree mortality has not been prevalent in the District. There has been an occasional tree or so on private properties with tree mortality.

Vulnerability to and Impacts from Tree Mortality

Placer County is unique in that many residential and business areas of the community are in the wildland urban interface/intermix with the forest. Trees in these interface/intermix areas are particularly vulnerable to insect and/or drought driven mortality because of the additional stressors that urban environments impose on trees (i.e. soil compaction, altered hydrology, physical damage, heat islands etc.). This exacerbates the occurrence of tree mortality within the populated settings of the County.

Dead trees are a hazard to the general public and forest visitors, but the risk of injury, death, property damage or infrastructure damages varies depending how the hazard interacts with potential targets. Dead trees within the wildland urban intermix or wildland urban interface or urban areas therefore pose a greater risk to due to their proximity to residents, businesses, and road, power, and communication infrastructure.

Dead trees may fall or deteriorate in their entirety or in part – either mechanism has the potential for injury, death, or inflicting severe damage to targets. As the time since tree mortality increases, so does the deterioration of wood and the potential for tree failure.

The primary concerns the District has concerning tree mortality is the increased dead fuel loading for wildfire and falling dead trees into structures causing damage and or injury.

Assets at Risk

No District assets (from Table K-3) are at risk from this hazard.

Wildfire

Likelihood of Future Occurrence–Highly Likely

Vulnerability–High

Hazard Profile and Problem Description

Wildland fire and the risk of a conflagration is an ongoing concern for the Newcastle FPD. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the

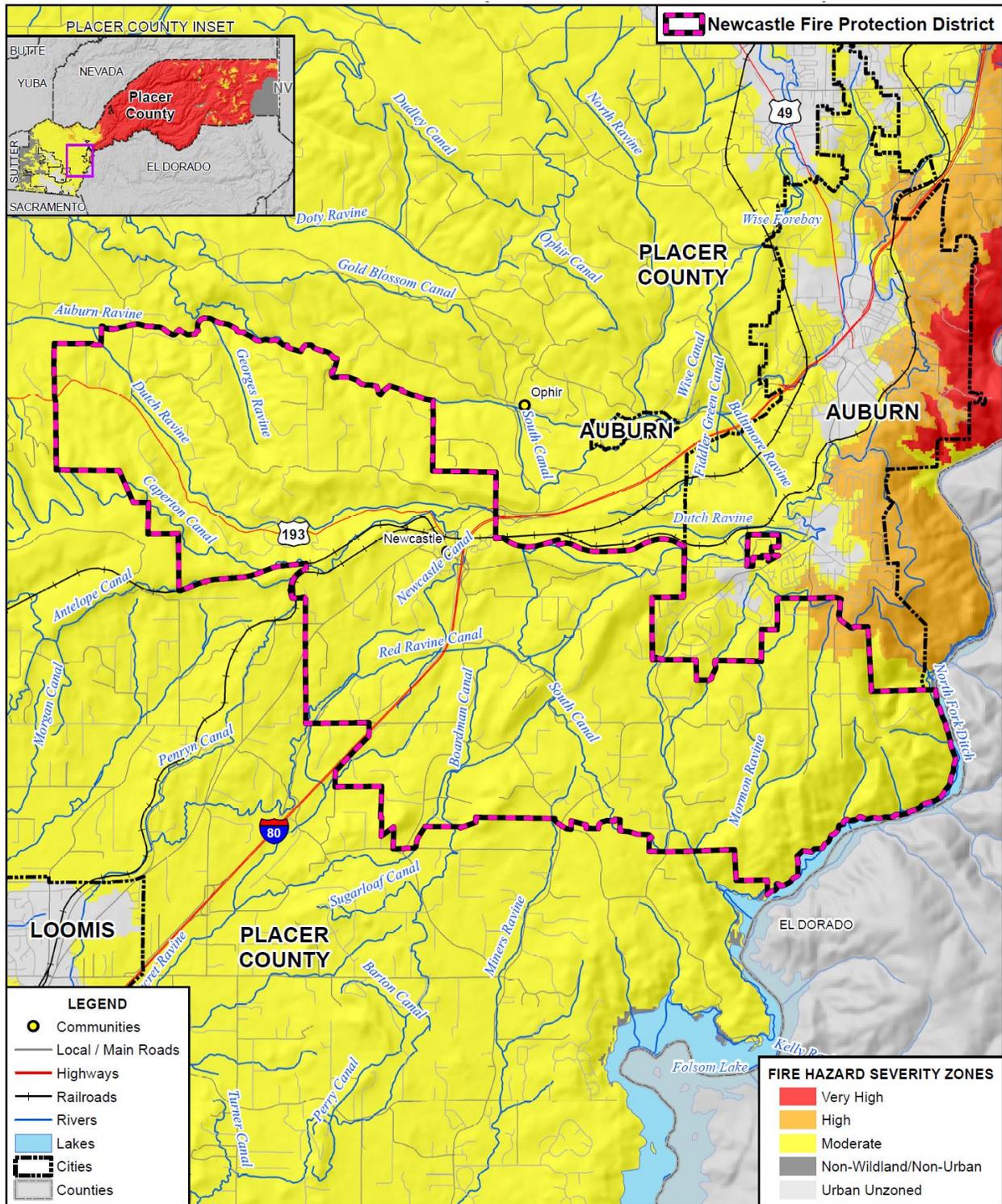
foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within them. Where there is human access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas.

Location and Extent

Wildfire can affect all areas of the District. CAL FIRE has estimated that the risk varies across the District and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the Newcastle FPD were created. Figure K-3 shows the CAL FIRE FHSZ in the District. As shown on the maps, fire hazard severity zones within the District range from moderate to high.

The entire Newcastle Fire District is within State Responsibility Area (SRA). Cal Fire is the primary agency for wildfire with assistance from the Placer Hills Fire District. Wildfire activity is captured and recorded by Cal Fire for the LHMP.

Figure K-3 Newcastle FPD – Fire Hazard Severity Zones



Data Source: Cal-Fire (Draft 09/2007 - c31fhszl06_1, Adopted 11/2007 - fhszs06_3_31, Recommended 12/2008 - c31fhszl06_3), Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more.

Past Occurrences

There has been five state and six federal disaster declarations for Placer County from fire. These can be seen in Table K-9.

Table K-9 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

The Newcastle Fire District noted that the District responds to structure fires. There have been no significant sole structure fires within the District in the last 5 years.

Vulnerability to and Impacts from Wildfire

Risk and vulnerability to the Placer County Planning Area and the District from wildfire is of significant concern, with some areas of the Planning Area being at greater risk than others as described further in this section. High fuel loads in the Planning Area, combined with a large built environment and population, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and potentially catastrophic fires. During the nearly year around fire season, the dry vegetation and hot and sometimes windy weather results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County and the District, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the District. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the District by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the District; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from large fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat

of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate PSPSs which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

Since all of the District is within a Fire Hazard Severity Zone as identified by Cal Fire and is a combination of Wildland Urban Intermix and Wildland Urban Interface, main concerns are for the safety of citizens and protection of structures from wildfire. Given the right conditions; weather, fuels, and topography, a wildfire can significantly impact and cause catastrophic damage to development within the District.

Assets at Risk

All District assets (from Table K-3) are at risk from this hazard.

K.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

K.6.1. Regulatory Mitigation Capabilities

Table K-10 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the Newcastle FPD.

Table K-10 Newcastle FPD Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan/General Plan	N	
Capital Improvements Plan	N	
Economic Development Plan	N	
Local Emergency Operations Plan	Y	Through coordination with Placer County
Continuity of Operations Plan	Y	Local District Operating Procedures, to follow Placer County Plan
Transportation Plan	N	
Stormwater Management Plan/Program	N	
Engineering Studies for Streams	N	

Community Wildfire Protection Plan	Y	In coordination with the Greater Auburn Area Fire Safe Council
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N	
Building Code, Permitting, and Inspections	Y/N	Are codes adequately enforced?
Building Code	Y	Version/Year: Enforced through Placer County CDRA
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	Score:
Fire department ISO rating:	Y	Rating: 4/4X
Site plan review requirements	Y	Enforced through District Standard Conditions for Development
		Is the ordinance an effective measure for reducing hazard impacts?
Land Use Planning and Ordinances	Y/N	Is the ordinance adequately administered and enforced?
Zoning ordinance	N	(All these areas the District falls under Placer County)
Subdivision ordinance	N	
Floodplain ordinance	N	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	N	
Flood insurance rate maps	N	
Elevation Certificates	N	
Acquisition of land for open space and public recreation uses	N	
Erosion or sediment control program	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		
Continued cooperative planning and building review processes to ensure all agencies apply mitigation measures and conditions for development.		

Source: Newcastle FPD

The District has and continues to adopt Ordinances to mitigate issues related to fire and life safety. These Ordinances include adoption of the most current California Fire Code, Placer County Hazardous Vegetation Ordinance with an MOU for enforcement/abatement services, Fee schedules for plan review, approval, and inspection to ensure compliance with Ordinances.

K.6.2. Administrative/Technical Mitigation Capabilities

Table K-11 identifies the District department(s) responsible for activities related to mitigation and loss prevention in the District.

Table K-11 Newcastle FPD’s Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	Y	In coordination with Placer County
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	N	
Mutual aid agreements	Y	Through Western Placer County Fire Chiefs Association, closest resources response agreement
Other	Y	Placer County Code Enforcement for abatement of hazardous vegetation
Staff	Y/N FT/PT	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y	In coordination with Placer County
Floodplain Administrator	N	
Emergency Manager	Y	In coordination with Placer County
Community Planner	Y	In coordination with Placer County
Civil Engineer	Y	In coordination with Placer County
GIS Coordinator	Y	In coordination with Placer County
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	Y	In coordination with Placer County
Hazard data and information	Y	In coordination with Placer County
Grant writing	N	
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Continued cooperative planning and inspection processes to ensure all agencies apply mitigation measures and conditions to reduce risk.		

Source: Newcastle FPD

K.6.3. Fiscal Mitigation Capabilities

Table K-12 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table K-12 Newcastle FPD’s Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Y	From Impact Fees and Special Assessments
Authority to levy taxes for specific purposes	Y	Voter Approved
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	Y	Used for capital expenditures
Storm water utility fee	N	
Incur debt through general obligation bonds and/or special tax bonds	Y	Not Used
Incur debt through private activities	N	
Community Development Block Grant	N	
Other federal funding programs	N	
State funding programs	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The District will continue to seek grant monies from all sources in order to better protect residents and structures in District territories.		

Source: Newcastle FPD

K.6.4. Mitigation Education, Outreach, and Partnerships

Table K-13 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table K-13 Newcastle FPD’s Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Greater Auburn Area Fire Safe Council, Placer County Fire Alliance. Evaluate risk and identify projects to reduce wildfire risk.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Updated web site, social media- Facebook, Twitter. To get safety messages out to public
Natural disaster or safety related school programs	Y	Through School Programs
StormReady certification	N	
Firewise Communities certification	Y	Through Placer County Fire Alliance and FIREWISE Coordinator.
Public-private partnership initiatives addressing disaster-related issues	N	

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Other		
How can these capabilities be expanded and improved to reduce risk?		
Continued participation with allied agencies and organizations and collaborate with single messaging on specific issues.		

Source: Newcastle FPD

K.6.5. Other Mitigation Efforts

The District has many other completed or ongoing mitigation efforts that include the following:

The District is involved in a variety of mitigation activities including public education, fuels management projects, and other activities to reduce fuel loads and fire risk. These mitigation activities include:

- Public Education and Fire Safety
 - ✓ A variety of public outreach activities are conducted throughout the district on an ongoing basis.
 - ✓ The District has a program where they make address signs and provide them to the public at cost.
 - ✓ The District promotes the use of the County Chipper for local residents.

- Defensible Space
 - ✓ When staffing is available for program management, the District provides defensible space inspections for area residents upon request.
 - ✓ When staffing is available for program management complaint based inspections occur for vegetation management on private properties to be in compliance with the Hazardous Vegetation Ordinance.

- New Development
 - ✓ The District has a comprehensive review, approval, and inspection process for all new development within the Districts that address fire and life safety issues in addition to the Placer County development process.

K.7 Mitigation Strategy

K.7.1. Mitigation Goals and Objectives

The Newcastle FPD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

K.7.2. Mitigation Actions

The planning team for the Newcastle FPD identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost,

and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Drought & Water Shortage
- Floods: 1%/0.2% annual chance
- Floods: Localized Stormwater
- Severe Weather: Extreme Heat
- Severe Weather: Freeze and Snow
- Severe Weather: Heavy Rains and Storms
- Tree Mortality
- Wildfire

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

Multi-Hazard Actions

Action 1. Private roadway and driveway vegetation clearances.

Hazards Addressed: Drought and Water Shortage, Climate Change, Tree Mortality, Wildfire, Extreme Heat, Freeze and Snow (limb removal)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Many private roadways and driveways throughout the fire district contain dense flammable vegetation along the shoulders of the roadway/driveway as well vertical clearances. This can impede fire resource response and somewhat limit access in the event of an emergency. During wildfire conditions this can pose significant risk to responders as well as civilians.

Project Description: Through inspection, identify those areas needing fuel reduction along private roadways and driveways. Optimal clearance is 10 feet from each shoulder and 15 vertical clearance. Inform property owners of the importance and their responsibility to create and maintain these accesses for emergency response and civilian evacuation. Implement the formal process of “Notice to Abate” as needed.

Other Alternatives: No other alternatives are identified at this time.

Existing Planning Mechanism(s) through which Action Will Be Implemented: All new constructed roads and driveways will be conditioned to create and maintain clearance through the plan review and approval process as a condition to develop.

Through inspection as well as emergency response to incidents, personnel will identify areas needing appropriate clearance. Once identified, a process will be initiated based on the Placer County Hazardous Vegetation Ordinance and local fire district adopted ordinance.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District staff officers and engine company personnel.

Cost Estimate: Currently the District has one part-time funded Fire Marshal position to manage this program. Additional funding will increase success in implementation. Property owners are responsible for implementing clearance requirements.

Benefits (Losses Avoided): Prevent delay in emergency response to incidents and potentially increased ability of civilian evacuation. Reduce vegetation to reduce fuel loading and the risk of wildfire.

Potential Funding: Possible grant funding for large scale roadside clearing projects for project management and fuel reduction implementation.

Timeline: Ongoing

Project Priority (H, M, L): High

Action 2. Address signage for residential and commercial structures.

Hazards Addressed: Multi-Hazard (Climate Change, Drought & Water Shortage, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: Heavy Rains and Storms, Tree Mortality, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Many structures throughout the District have either no addressing or limited addressing that is not consistent. Many structures were built at a time when there was no addressing standard in place. There is now a standard created by Placer County for consistent addressing in unincorporated areas of Placer County.

Project Description: Apply Placer County standard for addressing for all new construction throughout the fire district. Identify structures needing appropriate addressing and inform and educate property owners of a standard and consistent addressing means.

Other Alternatives: No other alternatives are identified at this time.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Addressing for new construction will be identified and implemented during the plan review and approval process as a condition

to develop. Through inspection as well as emergency response to incidents where addressing is lacking, inform and educate property owners of the value of appropriate addressing.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District staff officers and engine company personnel.

Cost Estimate: No costs identified, use of district personnel to implement. Costs for address signage will be the responsibility of the property owner. Estimated at \$40-\$60 dependent upon where obtained.

Benefits (Losses Avoided): Prevent delay in emergency response to incidents. Can assist in incidents requiring evacuation and in pre-planning communities for major incidents.

Potential Funding: Possible grant funding for large scale “addressing project”. The Placer Hills Firefighter Association creates address signs for citizens as a fund raising project.

Timeline: Ongoing

Project Priority (H, M, L): High

Action 3. Provide Advanced Life Support (ALS) services utilizing paramedics on the engine company.

Hazards Addressed: Multi-Hazard (Climate Change, Drought & Water Shortage, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: Heavy Rains and Storms, Tree Mortality, Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Currently the Newcastle Fire Protection District responds with two (2) personnel on the engine company and provides Basic Life Support (BLS) utilizing EMT’s. Approximately 80% of calls are medical related and providing ALS to the community would deliver a higher level of care to the sick and injured. Such services have been proven to provide life saving measures to those with the most serious injuries and sicknesses.

Project Description: Provide daily paramedic staffing on the engine company at all times; 24/7. Procure, maintain, and manage personnel certification and equipment related to ALS.

Other Alternatives: No other alternatives are identified at this time, BLS to remain the standard if ALS is not implemented.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Through advanced medical training, future new paramedic hires, and utilizing the Joint Operations Agreement (JOA) with Placer Hills Fire District personnel, ALS can be obtained as the standard level of care for medical emergencies.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District designated staff, under cooperative agreement with Placer Hills Fire District, will implement, and manage this program under the authority of the Sierra-Sacramento Valley EMS Agency.

Cost Estimate: The District is currently exploring all costs associated with providing ALS services. Costs associated with ALS services include training and certification of personnel, procurement of ALS equipment, medical supplies associated with ALS, billing and cost recovery, and record management systems. Currently there is one (1) paramedic qualified personnel in the Newcastle Fire District response system, a minimum of two (2) additional personnel are needed to fully deliver ALS services.

Benefits (Losses Avoided): Delivery of a higher level of medical care to the sick and injured of which can result in the saving of lives.

Potential Funding: Potential funding for personnel training and initial equipment purchase may be obtained through the Western Placer County Fire Chiefs Association EMS fund. This would be an anticipated one-time funding source at start up. The District is in the evaluation phase of implementing a “first Responder” fee of which would allow the District to collect fees for response of which may cover continued costs of an ALS program. Other grant opportunities will be explored to create and maintain this ALS program.

Timeline: Currently in process of collecting initial start-up costs and potential recovery fees needed to sustain an ALS program. Desirable to have an ALS program up and running in six (6) months. Ongoing

Project Priority (H, M, L): High

Action 4. Defensible space inspection and implementation throughout the District.

Hazards Addressed: Drought and Water Shortage, Climate Change, Tree Mortality, Wildfire, Extreme Heat

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Most all of the District lies within High or Moderate Fire Severity Zones as identified by Cal Fire. The application of defensible space and home hardening are ways to reduce the risk of wildfire destruction. Although homeowners/business owners are aware of such risks, through an inspection process property owners can be better informed of what action they can do to reduce such risks.

Project Description: Through an inspection process, educate, inform, and make recommendation for property owners on what actions to take to reduce the risk of destruction from wildfire. Identify vegetation to remove, reduce, and maintain to achieve defensible space. Identify potential areas of home hardening to better prepare for wildfire. Conduct inspections on private properties to identify specific needs of that property to achieve defensible space.

Other Alternatives: No other alternatives are identified at this time.

Existing Planning Mechanism(s) through which Action Will Be Implemented: All new construction will be conditioned to create and maintain defensible space through the plan review and approval process as a condition to build. Through an inspection program, identify areas to conduct property inspections. The basis of the inspection program will utilize Public Resource Code (PRC), Placer County Hazardous Vegetation Ordinance, and local fire district adopted ordinance.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District designated staff will implement and manage this inspection program.

Cost Estimate: Currently the District has one part-time funded Fire Marshal position to manage this program. Additional funding will increase success in implementation. Property owners are responsible for implementing clearance requirements.

Benefits (Losses Avoided): Reduction of property loss due to wildfire may be obtained through such a program.

Potential Funding: Possible grant funding for fulltime and or additional personnel for project management and inspection. Potential of charging fee for inspection.

Timeline: Ongoing

Project Priority (H, M, L): High

Action 5. *Relocate and construct a new fire station for the Newcastle Fire Protection District.*

Hazards Addressed: Drought and Water Shortage, Climate Change, Tree Mortality, Wildfire, Extreme Heat

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The current Newcastle Fire Protection District fire station has been in service since 1922. It has been modified over the years to accommodate the needs of personnel and equipment and due to building issues, space issues, and location, is no longer suitable to operate as a fire response facility. This District has been planning for a new fire facility for a number of years and has a “special assessment” levied on district properties to go towards the construction of a new fire station. The district has secured the land for this facility and has developed plans and drawings for this facility as well as obtained costs for the project.

Project Description: Provide a new fire facility capable of supporting emergency response personnel with 24/7 operations, housing emergency response vehicles and equipment, and provide public access for conducting routine business associated with the fire district.

Other Alternatives: No other alternatives are identified; the current fire facility cannot be renovated to accommodate fire district needs.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The Newcastle Fire Protection District Board of Directors along with the Fire Chief and District Manager continue to further along the process of constructing a new fire facility. The Board has created a “New Fire Station Committee” that has spent a great deal of time over the years obtaining and completing all necessary measures to move forward with this project.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District Board and designated command staff are working with Planning, Building, and Finance agencies to implement this project.

Cost Estimate: Cost estimates continue to rise as the years go by. Currently the District is attempting to secure financial loan funding through different sources. Currently the District is in the process in obtaining loan funding through a USDA loan program and continues to work with Placer County Finance leaders as a potential alternative for funding. Current cost estimates for this project range from 4-5 million dollars.

Benefits (Losses Avoided): A fire facility capable of supporting personnel and equipment for emergency response to the Newcastle Fire Protection District and surrounding areas.

Potential Funding: Funding for this project will be through collected property taxes, current benefit assessments levied on district properties, and potential additional assessments levied on district properties. The district is currently in the process of obtaining loan funding through a USDA loan program. Additional grant and or loan funding are also being considered.

Timeline: The District is 3-4 years behind in this project due to securing funding to escalating costs associated with this project. It is necessary to begin construction on this project within 2021 to secure ownership of the land that will be used for the new facility. Ongoing with a project completion date within 12-18 months of securing loan funding.

Project Priority (H, M, L): High

Action 6. *Participate and collaborate with the Greater Auburn Area Fire Safe Council (GAAFSC) and contribute to the Community Wildfire Protection Plan (CWPP)*

Hazards Addressed: Drought and Water Shortage, Climate Change, Tree Mortality, Wildfire, Extreme Heat

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The Newcastle Fire Protection District is within the boundaries of the GAAFSC. Newcastle Fire Protection District has been involved with the GAAFSC throughout the years. The Fire Safe Council’s in Placer County contribute greatly to the CWPP. This is opportunity for local fire agencies to be involved in such a process.

Project Description: The Newcastle Fire Protection District participates in the GAAFSC. Continued participation and collaboration will occur on an on-going basis. Attending monthly meetings and participate in GAAFSC events.

Other Alternatives: No other alternatives have been identified that includes such collaboration

Existing Planning Mechanism(s) through which Action Will Be Implemented: Identify staff personnel to attend meetings and GAAFSC events.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District command staff.

Cost Estimate: No costs are associated with this action.

Benefits (Losses Avoided): Keep current on projects and public outreach campaigns. Develop a collaborative approach to the wildfire risks and reduction methods. Participate in the CWPP process.

Potential Funding: Possible grant funding through the GAAFSC to assist Newcastle Fire Protection District with fuel reduction and related projects.

Timeline: Ongoing

Project Priority (H, M, L): High

Action 7. Heavy Rains, Localized Flooding, Flood, Freeze, and Snow Mitigation

Hazards Addressed: Flood, Localized Flooding, Freeze and Snow.

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: From time to time, the District experiences localized heavy rains that create minor flooding on streets and roads used for emergency response. In addition, freezing may occur occasionally. This natural occurrence of rain, and freeze can have an impact on response to emergencies.

Project Description: Obtain the most up-to-date information regarding adverse weather, predicted weather events, and related weather that may impact District response to emergencies.

Other Alternatives: No other alternatives are identified at this time.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Coordinate with Placer OES on specific predicted weather events. Plan response accordingly to specific event: alternate routes for flooded areas and apparatus with appropriate chains for ice. Notify Placer County Roads through Placer Dispatch for problem areas that include flooding; need for storm drain clearing, sanding of roads for ice and snow, and road closures.

Responsible Agency/ Department/Partners: Newcastle Fire Protection District staff officers and engine company personnel.

Cost Estimate: No costs identified with this operational procedure.

Benefits (Losses Avoided): Prevent delay in emergency response to incidents and safety of responding personnel.

Potential Funding: None identified for this mitigation.

Timeline: Ongoing

Project Priority (H, M, L): Medium